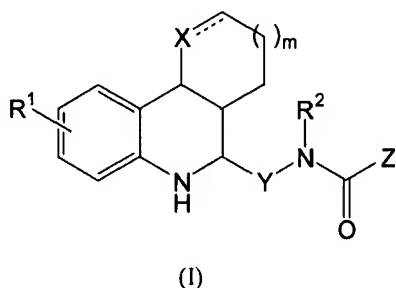


## **AMENDMENTS TO THE CLAIMS**

**This listing of claims will replace all prior versions and listings of claims in the application:**

### **LISTING OF CLAIMS:**

**1. (original):** A tetrahydroquinoline derivative represented by the following formula (I) or pharmacologically acceptable salts thereof:



wherein R<sup>1</sup> represents a nitro group or a cyano group;

X represents CH or O, provided that when X is CH, the dashed line represents a double bond;

m represents 0 or 1;

Y represents an alkylene group having 1 - 5 carbon atoms which may be substituted by a substituent selected from the group consisting of an alkyl group having 1 - 5 carbon atoms and a cycloalkyl group having 3 - 7 carbon atoms;

R<sup>2</sup> represents a hydrogen atom, an alkyl group having 1 - 5 carbon atoms, a cycloalkyl group having 3 - 7 carbon atoms or an aralkyl group having 7 - 9 carbon atoms;

Z represents -B-O-Q

[wherein B represents an alkylene group having 1 - 5 carbon atoms which may be substituted by a substituent selected from the group consisting of an alkyl group having 1 - 5

carbon atoms and a cycloalkyl group having 3 - 7 carbon atoms; Q is a hydrogen atom, an alkyl group having 1 - 5 carbon atoms or a cycloalkyl group having 3 - 7 carbon atoms which may be substituted by a substituent selected from the group consisting of a halogen atom, a hydroxyl group, a cyano group and an alkoxy group having 1 - 5 carbon atoms, or an aryl group, a heteroaryl group or an aralkyl group having 7 - 9 carbon atoms which may have a substituent R<sup>3</sup>,

R<sup>3</sup> represents an alkyl group having 1 - 5 carbon atoms which may be substituted by a fluorine atom, a halogen atom, an aryl group, a heteroaryl group, a nitro group, a cyano group, -A-R<sup>4</sup> {wherein A represents -CO-, -CO<sub>2</sub>-, -COS-, -CONR<sup>5</sup>-, -O-, -OCO-, -OSO<sub>2</sub>-, -S-, SCO-, -SO-, -SO<sub>2</sub>-, -NR<sup>5</sup>-, -NR<sup>5</sup>CO-, -NR<sup>5</sup>SO<sub>2</sub>-, -NR<sup>5</sup>CONH-, NR<sup>5</sup>CSNH- or -NR<sup>5</sup>COO- (wherein R<sup>5</sup> represents a hydrogen atom, an alkyl group having 1 - 5 carbon atoms, a cycloalkyl group having 3 - 7 carbon atoms or an aralkyl group having 7 - 9 carbon atoms),

R<sup>4</sup> is a hydrogen atom, an alkyl group having 1 - 5 carbon atoms which may be substituted by a fluorine atom, a cycloalkyl group having 3 - 7 carbon atoms, a halogen atom, or an aryl group or a heteroaryl group which may be substituted by R<sup>6</sup> (wherein R<sup>6</sup> represents an alkyl group having 1 - 5 carbon atoms, an alkoxy group having 1 - 5 carbon atoms or a halogen atom), provided that when A is NR<sup>5</sup>- or -CONR<sup>5</sup>-, R<sup>4</sup> and R<sup>5</sup> may, together with the nitrogen atom to which they are bonded, form pyrrolidine or piperidine}}, or -A'-(CH<sub>2</sub>)<sub>n</sub>-R<sup>4'</sup> {wherein A' represents a single bond, -CO-, -CO<sub>2</sub>-, -COS-, -CONR<sup>5'</sup>-, -O-, -OCO-, -OSO<sub>2</sub>-, -S-, SCO-, -SO-, -SO<sub>2</sub>-, -NR<sup>5'</sup>-, -NR<sup>5'</sup>CO-, -NR<sup>5'</sup>SO<sub>2</sub>-, -NR<sup>5'</sup>CONH-, NR<sup>5'</sup>CSNH- or -NR<sup>5'</sup>COO- (wherein R<sup>5'</sup> represents a hydrogen atom, an alkyl group having 1 - 5 carbon atoms, a cycloalkyl group having 3 - 7 carbon atoms or an aralkyl group having 7 - 9 carbon atoms), n represents an integer of 1 or 2, R<sup>4'</sup> represents a hydrogen atom, an alkyl group having 1 - 5 carbon atoms which may be substituted by a fluorine atom, a cycloalkyl group having 3 - 7 carbon atoms, a halogen atom, a

hydroxyl group, a cyano group, an alkoxy group having 1 - 5 carbon atoms, an alkylacyloxy group having 2 - 5 carbon atoms, an alkoxy carbonyl group having 2 - 5 carbon atoms, an aryl group or a heteroaryl group which may be substituted by  $R^{6'}$  (wherein  $R^{6'}$  represents an alkyl group having 1 - 5 carbon atoms, an alkoxy group having 1 - 5 carbon atoms or a halogen atom), or  $-NR^{7'}R^{8'}$  (wherein  $R^{7'}$  and  $R^{8'}$  each independently have the same meaning as the aforementioned  $R^{5'}$ , provided that  $R^{7'}$  and  $R^{8'}$  may, together with the nitrogen atom to which they are bonded, form pyrrolidine or piperidine), provided that when  $A'$  is  $-NR^{5'}$ - or  $-CONR^{5'}$ -,  $R^{4'}$  and  $R^{5'}$  may, together with the  $-N-(CH_2)_n$ - to which they are bonded, form pyrrolidine or piperidine}], or alternatively  $Z$  represents  $-(CH_2)_r-W$

[wherein  $r$  represents an integer of 0 - 2,  $W$  represents

a phenyl group having substituent  $R^9$  at  $p$ -position, a naphthyl group which may have substituent  $R^{10}$  or a heteroaryl group which may be substituted by 1 - 3 independent  $R^{11}$ 's (wherein  $R^9$ ,  $R^{10}$  and  $R^{11}$  independently have the same meaning as the aforementioned  $R^3$ )].

**2. (withdrawn):** The tetrahydroquinoline derivative according to claim 1, where  $Y$  is  $-\text{CH}(\text{CH}_3)-\text{CH}_2-$  or  $-\text{C}(\text{CH}_3)_2-\text{CH}_2-$ ,  $X$  is  $\text{CH}$ ,  $m$  is 0,  $R^2$  is a hydrogen atom and  $Z$  is  $-\text{CH}_2-\text{O}-Q$  (wherein  $Q$  represents an alkyl group having 1 - 5 carbon atoms) or pharmacologically acceptable salts thereof.

**3. (original):** The tetrahydroquinoline derivative according to claim 1, where  $Y$  is  $-\text{CH}(\text{CH}_3)-\text{CH}_2-$  or  $-\text{C}(\text{CH}_3)_2-\text{CH}_2-$ ,  $m$  is 0,  $R^2$  is a hydrogen atom and  $Z$  is  $-W$  [wherein  $W$  is a heteroaryl group which may be substituted by 1 - 3 independent  $R^{11}$ 's or a phenyl group having substituent  $R^9$  at  $p$ -position {wherein  $R^{11}$  and  $R^9$  independently represent a halogen atom, an

alkyl group having 1 - 5 carbon atoms which may be substituted by a fluorine atom, a nitro group, a cyano group,  $-A-R^4$  (wherein A is  $-\text{CO}-$ ,  $-\text{CO}_2-$ ,  $-\text{O}-$ ,  $-\text{NHCO}-$  or  $-\text{NHCONH}-$ , and  $R^4$  is a hydrogen atom or an alkyl group having 1 - 5 carbon atoms which may be substituted by a fluorine atom) or  $-A'-(\text{CH}_2)_n-R^{4'}$  (wherein  $A'$  is  $-\text{CO}-$ ,  $-\text{CO}_2-$ ,  $-\text{O}-$ ,  $-\text{NHCO}-$  or  $-\text{NHCONH}-$ ,  $R^{4'}$  is a hydrogen atom, an alkyl group having 1 - 5 carbon atoms which may be substituted by a fluorine atom, a hydroxyl group, a halogen atom or an alkoxy group having 1 - 5 carbon atoms, and n is an integer of 1 or 2)] or pharmacologically acceptable salts thereof.

**4. (original):** The tetrahydroquinoline derivative according to claim 3, where Z is a phenyl group having substituent  $R^9$  at p-position or a heteroaryl group having substituent  $R^{11}$  {wherein  $R^9$  and  $R^{11}$  independently represent a halogen atom,  $-\text{O}-R^4$  or  $-\text{NHCO}-R^4$  (wherein  $R^4$  represents a hydrogen atom or an alkyl group having 1 - 5 carbon atoms which may be substituted by a fluorine atom)} or pharmacologically acceptable salts thereof.

**5. (original):** The tetrahydroquinoline derivative according to claim 3, where Z is a phenyl group having substituent  $R^9$  at p-position or a heteroaryl group having substituent  $R^{11}$  {wherein  $R^9$  and  $R^{11}$  represent  $-\text{NHCO}-R^4$  (wherein  $R^4$  represents a hydrogen atom or an alkyl group having 1 - 5 carbon atoms which may be substituted by a fluorine atom)} or pharmacologically acceptable salts thereof.

**6. (currently amended):** ~~A pharmaceutical comprising the~~ The tetrahydroquinoline derivative or pharmacologically acceptable salts thereof according to any one of claims 1 and 3 to 5 as an active ingredient and a pharmaceutically acceptable carrier or excipient.

alkyl group having 1 - 5 carbon atoms which may be substituted by a fluorine atom, a nitro group, a cyano group,  $-A-R^4$  (wherein A is  $-\text{CO}-$ ,  $-\text{CO}_2-$ ,  $-\text{O}-$ ,  $-\text{NHCO}-$  or  $-\text{NHCONH}-$ , and  $R^4$  is a hydrogen atom or an alkyl group having 1 - 5 carbon atoms which may be substituted by a fluorine atom) or  $-A'-(\text{CH}_2)_n-R^{4i}$  (wherein  $A'$  is  $-\text{CO}-$ ,  $-\text{CO}_2-$ ,  $-\text{O}-$ ,  $-\text{NHCO}-$  or  $-\text{NHCONH}-$ ,  $R^{4i}$  is a hydrogen atom, an alkyl group having 1 - 5 carbon atoms which may be substituted by a fluorine atom, a hydroxyl group, a halogen atom or an alkoxy group having 1 - 5 carbon atoms, and n is an integer of 1 or 2)) or pharmacologically acceptable salts thereof.

**4. (original):** The tetrahydroquinoline derivative according to claim 3, where Z is a phenyl group having substituent  $R^9$  at p-position or a heteroaryl group having substituent  $R^{11}$  {wherein  $R^9$  and  $R^{11}$  independently represent a halogen atom,  $-\text{O}-R^4$  or  $-\text{NHCO}-R^4$  (wherein  $R^4$  represents a hydrogen atom or an alkyl group having 1 - 5 carbon atoms which may be substituted by a fluorine atom)} or pharmacologically acceptable salts thereof.

**5. (original):** The tetrahydroquinoline derivative according to claim 3, where Z is a phenyl group having substituent  $R^9$  at p-position or a heteroaryl group having substituent  $R^{11}$  {wherein  $R^9$  and  $R^{11}$  represent  $-\text{NHCO}-R^4$  (wherein  $R^4$  represents a hydrogen atom or an alkyl group having 1 - 5 carbon atoms which may be substituted by a fluorine atom)} or pharmacologically acceptable salts thereof.

**6. (currently amended):** ~~A pharmaceutical comprising the~~ The tetrahydroquinoline derivative or pharmacologically acceptable salts thereof according to any one of claims 1 and 3 to 5 as an active ingredient and a pharmaceutically acceptable carrier or excipient.

**7. - 10. (canceled).**

**11. (currently amended):** A method of ~~preventing or~~ treating muscle wasting disease or osteoporosis, which comprises administering to a mammal in need of such ~~prevention or~~ treatment, the tetrahydroquinoline derivative or pharmacologically acceptable salts thereof according to any one of claims 1 and 3 to 5 in an amount effective to ~~prevent or treat~~ said ~~those~~ diseases.

**12. (currently amended):** A method of ~~preventing or~~ treating a disease ~~selected from the group consisting of~~ male hypogonadism, ~~male sexual dysfunction, abnormal sex differentiation, male delayed puberty, cancer in female genital organ, breast cancer, mastopathy, endometriosis and female sexual dysfunction,~~ which comprises administering to a mammal in need of such ~~prevention or~~ treatment, the tetrahydroquinoline derivative or pharmacologically acceptable salts thereof according to any one of claims 1 and 3 to 5 in an amount effective to ~~prevent or treat~~ said ~~those~~ diseases.

**13. (canceled):**